



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

H.A

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,782	12/10/2004	Kazuyuki Hasegawa	MATS:050	8603
37013	7590	08/22/2006	EXAMINER	
ROSSI, KIMMS & McDOWELL LLP.			MACCHIAROLO, PETER J	
P.O. BOX 826			ART UNIT	
ASHBURN, VA 20146-0826			PAPER NUMBER	
			2879	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/517,782

Applicant(s)

HASEGAWA ET AL.

Examiner

Peter J. Macchiarolo

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/10/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 12/10/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

*Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1, 4, 7, and 8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 of copending Application No. 10/535951 to Hasegawa et al (US PGPUB 20060055324; "Hasegawa").**

Regarding claims 1 and 8, Hasegawa claims a PDP with a protective layer formed on a dielectric layer, the protective layer includes at least one of carbon and silicon. Hasegawa does not expressly claim the protective layer has both carbon and silicon, but does infer this limitation with the claim language, "at least one of." One of ordinary skill in the art would be motivated to use both carbon and silicon to allow for a more durable protection layer.

Regarding claims 4 and 7, only obvious methods are claimed and the above rejection to claim 1 likewise applies to claims 4 and 7.

**Claims 1, 4, 7, and 8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 of copending Application No. 10/535823 to Hasegawa et al (US PGPUB 20050285532; “ ‘532”).**

Regarding claims 1 and 8, ‘532 claims a PDP with a protective layer formed on a dielectric layer, the protective layer includes MgO, MgC, and Si, anticipating Applicant’s instant claims, in which the protection layer comprises carbon and silicon.

Regarding claims 4 and 7, only obvious methods are claimed and the above ‘532 rejection to claim 1 likewise applies to claims 4 and 7.

These are provisional obviousness-type double patenting rejections.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 4, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Inoue et al (USPN 20040027072; “Inoue”).**

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Art Unit: 2879

Regarding claim 1, Inoue shows in figure 3, a plasma display panel in which a dielectric layer (4) is formed so that the dielectric layer (4) covers a scanning electrode (31) and a sustain electrode (31) formed on a substrate (1), and in which a protective layer (12) is formed on the dielectric layer (4), wherein the protective layer (12) includes carbon and silicon (see for example the ABSTRACT, protective layer is SiC).

Regarding claim 4, Inoue discloses in figure 3 and in paragraphs 75-96 a method of manufacturing a plasma display panel in which a dielectric layer (4) is formed so that the dielectric layer (4) covers a scanning electrode (31) and a sustain electrode (31) formed on a substrate (1), and in which a protective layer (12) is formed on the dielectric layer (4), wherein a process for forming the protective layer (12) is a process for forming a film using a material (SiC) for a protective layer, including carbon and silicon.

Regarding claim 7, Inoue discloses in figure 3 and in paragraphs 75-96 a method of manufacturing a plasma display panel in which a dielectric layer (4) is formed so that the dielectric layer (4) covers a scanning electrode (31) and a sustain electrode (31) formed on a substrate (1), and in which a protective layer (12) is formed on the dielectric layer (4), wherein carbon and silicon are added in the protective layer (12).

The Examiner notes that the claim limitation “added in the protective layer after the protective layer is formed on the dielectric layer” is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an

Art Unit: 2879

unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Inoue (see MPEP 2113).

Regarding claim 8, Inoue discloses in figure 3 and in paragraphs 75-96 a material for a protective layer of a plasma display panel in which a dielectric layer (4) is formed so that the dielectric layer (4) covers a scanning electrode (31) and a sustain electrode (31) formed on a substrate (1), and in which a protective layer (12) is formed on the dielectric layer (4), wherein the material for a protective layer includes carbon and silicon (specifically, SiC).

**Claims 1, 3, 4, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant cited Hidaka et al (JP PUB 2001110321; "Hidaka").**

Regarding claim 1, Hidaka shows in figure 4, a plasma display panel in which a dielectric layer (17) is formed so that the dielectric layer (17) covers a scanning electrode (X) and a sustain electrode (Y) formed on a substrate (11), and in which a protective layer (18) is formed on the dielectric layer (17), wherein the protective layer (18) includes carbon and silicon (see for example paragraph 37, protective layer is  $[(C_6H_{13}COO)_4Si]$ ).

Regarding claim 3, Hidaka discloses in paragraph 37 that the number of carbon atoms is greater than that of silicon.

Art Unit: 2879

Regarding claim 4, Hidaka discloses in figure 4 and in paragraph 37 a method of manufacturing a plasma display panel in which a dielectric layer (17) is formed so that the dielectric layer (17) covers a scanning electrode (X) and a sustain electrode (Y) formed on a substrate (11), and in which a protective layer (18) is formed on the dielectric layer (17), wherein a process for forming the protective layer (18) is a process for forming a film using a material  $[(C_6H_{13}COO)_4Si]$  for a protective layer, including carbon and silicon.

Regarding claim 7, Hidaka discloses in figure 3 and in paragraphs 75-96 a method of manufacturing a plasma display panel in which a dielectric layer (4) is formed so that the dielectric layer (4) covers a scanning electrode (31) and a sustain electrode (31) formed on a substrate (1), and in which a protective layer (12) is formed on the dielectric layer (4), wherein carbon and silicon are added in the protective layer (12).

The Examiner notes that the claim limitation “added in the protective layer after the protective layer is formed on the dielectric layer” is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Hidaka (see MPEP 2113).

Regarding claim 8, Hidaka discloses in figure 4 and in paragraph 37 a material for a protective layer of a plasma display panel in which a dielectric layer (17) is formed so that the



dielectric layer (17) covers a scanning electrode (X) and a sustain electrode (Y) formed on a substrate (11), and in which a protective layer (18) is formed on the dielectric layer (17), wherein the material for a protective layer (18) includes carbon and silicon (specifically,  $[(C_6 H_{13} COO)_4 Si]$ ).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2, 5, 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka.**

Regarding claim 2, Hidaka discloses in paragraphs 36 and 37 the material for a protective layer is magnesium oxide including carbon and silicon, and the density of silicon is 100ppm.

Hidaka is silent to layer including silicon with  $5 \times 10^{18}$  atoms/cm<sup>3</sup> to  $2 \times 10^{21}$  atoms/cm<sup>3</sup>, and carbon with  $1 \times 10^{18}$  atoms/cm<sup>3</sup> to  $2 \times 10^{21}$  atoms/cm<sup>3</sup>.

However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, one would be motivated to use a density of carbon and silicon in the recited range for a variety of reasons, including operation methods requiring sensitive parameters and reduced manufacturing time while maintaining appropriate barrier properties.

Art Unit: 2879

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Hidaka's PDP with the protection layer having a density of carbon and silicon in the recited range to reduce manufacturing time.

Regarding claims 5 and 9, Hidaka discloses in paragraphs 36 and 37 the material for a protective layer is magnesium oxide including carbon and silicon, and the density of silicon is 100ppm.

While Hidaka is silent to the exact density of carbon, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, one would be motivated to use a density of carbon in a range from 5 to 1500ppm of for a variety of reasons, including operation methods requiring sensitive parameters and reduced manufacturing time while maintaining appropriate barrier properties.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Hidaka's PDP with the protection layer having density of carbon from 5 to 1500ppm to reduce manufacturing time.

Regarding claims 6 and 10, Hidaka is silent to the protective layer comprising MgO and SiC in a density of 40 to 12000ppm.

However, the Examiner takes official notice that it is known in the art that SiC is well-known to be resistant to a plasma discharge and can perform as a protection layer.

Art Unit: 2879

Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

*In re Aller*, 105 USPQ 233. One would be motivated to use a density of SiC in a range from 40 to 12000ppm for a variety of reasons, including operation methods requiring sensitive parameters and reduced manufacturing time while maintaining appropriate barrier properties.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the protection layer of Hidaka with a density of SiC in a range from 40 to 12000ppm to reduce manufacturing time.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6171438 to Masuda is evidence that SiC is known to be resistant to a plasma discharge. A computer translation of Hidaka is provided for Applicant's convenience.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2879

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pm

  
**ASHOK PATEL**  
**PRIMARY EXAMINER**